

MONTHLY WEATHER REVIEW.

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INTRODUCTION.

This REVIEW contains a general summary of the meteorological reports received from the regular and voluntary observers of the Signal Service during the month of February, and up to March 20th. A brief description is also given of storms which occurred in the north Atlantic during the month, based upon observations taken at 7 a. m., Washington time.

The most marked features of the month have been:—

1st. The destructive floods which occurred in the Ohio and its tributaries, causing great loss of life and property. The water in the Ohio, near Cincinnati, Louisville, and southward to Cairo, rose above the highest water-mark of any previous flood, and the value of property destroyed is estimated at \$30,000,000. The floods in the lower Mississippi had not reached their maximum height at the close of the month, but in many places they have equalled the floods of last year. The warning issued by this service gave from ten to fifteen days' notice of the approach of these floods, and the citizens in the threatened district had ample time to secure property and seek places of safety.

The following note, relative to the work of the Signal Service, appeared in the "Cincinnati News" of February 17:—

The United States Signal Service Department has been of great service during the flood, more so, in fact, than the majority of our citizens are aware of, and their timely warnings of the coming flood have been instrumental in saving over \$1,000,000 worth of goods in this city alone. Each rise has been prophesied from twelve to twenty-four hours in advance of its arrival, and the merchants promptly notified, thus enabling them to remove to a place of safety. We are pleased to learn that those most benefited by these admonitions recognize their value, and fully appreciate the services rendered. Mr. E. B. Dunn, the officer in charge in this city, has worked diligently to place his bulletins before the public, which, we are assured, has proved a very difficult undertaking, and to him the merchants of the city have tendered their heartfelt thanks.

2d. The month has been colder than the mean for February in all sections west of the Mississippi river, the severest weather occurring in the Rocky mountains and northern plateau regions, where the temperature has averaged from eight to sixteen degrees below the normal for the month.

It averaged about four degrees below the normal in the north-west and in the upper lake region, and from four to five degrees below in Oregon and California. In New England, and thence westward to Lake Erie, the temperature has been slightly below the mean.

In the southern states east of the Mississippi river, it has been warmer than usual, the greatest excess occurring in Florida, where it averaged six and five tenths degrees above the mean.

The winter has been colder than usual generally throughout the United States, the exceptions being in the south Atlantic and east Gulf states, and on the south Pacific coast, where it was slightly warmer than usual. In the northwestern sections the temperature was over four degrees below the average winter temperature.

3d. The rainfall on the Pacific coast during the past winter has not been sufficient to assure a medium wheat crop in that region.

There has been a deficiency of over four inches in central California and Oregon during February, and larger deficiencies in these sections during the previous winter months. This important crop, therefore, depends largely upon the spring rains, which, in that section, are usually very light.

The rainfall in the northern states has been generally above the average, the greatest excess above the average being 3.86 inches in the Ohio valley.

4th. On chart ii. is exhibited the limits within which ice has been observed from vessels in the north Atlantic during the month of February. The reports show that ice dangerous to shipping is slowly drifting southward between latitudes n. 43° and 51° and longitudes w. 45° and 48°. Within this region many icebergs and large fields of ice were observed, and vessels approaching or leaving the coast of the United States can only avoid danger by sailing over a course south of the 40th parallel when west of the 30th meridian.

In the preparation of this REVIEW, the following data received up to March 20th, have been used; viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-six Signal Service stations and thirteen Canadian stations, as telegraphed to this office; one hundred and eighty-seven monthly journals, and one hundred and seventy-six monthly means from the former, and thirteen monthly means from the latter; two hundred and twenty-eight monthly registers from voluntary observers; fifty-one monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather-reports from the local weather services of Indiana, Kansas, Nebraska, Missouri, and Tennessee, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[Expressed in inches.]

The distribution of the mean atmospheric pressure for the month of February, 1883, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines, in red, on chart iii.

The area of mean high pressure which was central in northern California and Nevada during January has apparently moved northward and now extends over Oregon and Washington Territory, the pressure, however, increased about four hundredths of an inch during the month at the centre of the high area. The area of lowest mean pressure extends over the southern part of Arizona, where the barometer ranges below 30.05. A comparison of chart iii. for this and the preceding month (January) shows that there has been a general movement of the high and low areas of pressure to the northward. The pressure has averaged about 30.25 over the greater portion of the United States, and compared with the preceding month, there has been a general increase of mean pressure in all districts except on the south and central Pacific coasts, where it has decreased.